United States Department of Agriculture | Forest Service | Northeastern Area State & Private Forestry | 180 Canfield Street Morgantown, WV 26505-3101

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Date: July 9, 2010

Subject: 2010 Insect Pest Sample 1

To: Jerry Jordan, District Silviculturist
Allegheny National Forest

After looking at the samples you sent, we determined that the silver maple is experiencing two distinct problems. Both are caused by native insect pests.

The first problem is the cottony maple scale (*Pulvinaria innumerabilis*), which can be observed on the branch sample you sent (figure 1). What you are seeing is the female insect that has made a white, cottony mass of eggs on her back (called an ovisac).

Figure 1. Cottony maple scale adults on maple.

Each ovisac contains 1,000 to 1,500 eggs, which will hatch from mid-June to August. The female will die shortly after her eggs hatch. The hatched eggs produce "crawlers" that migrate down the branches and collect on the leaves. Normally they prefer the underside of the leaf. The crawlers suck on the leaves' main veins and produce a sap-like substance called honeydew. The crawlers mature and migrate back up the branch; some are dispersed by the wind and find new host trees, and the cycle starts again.

The honeydew produced by the feeding of crawlers can be a problem because of its sweetness that can attract wasps, bees, ants, and other pests. The honeydew is a good host for black sooty mold that could cause potential human health problems. The honeydew is also known to drip on cars and ruin outdoor furniture. Cottony maple scale is typically an outbreak species lasting 2 to 3 years; native wasp and fly parasites seem to bring their population numbers down dramatically. Over-the-counter insecticides can also be used to control this insect.

This is the most common scale insect that affects silver and red maples, and if combined with other stressors can have a detrimental effect on the tree. It can occur in virtually every State. Its favored hosts are maples, particularly soft maple, but it also can be found on sugar maple when outbreak conditions occur. This insect can also occur on a wide variety of other woody plants, including boxelder, dogwood, elm, osage orange, peach, plum, pear, poplar, apple, black locust, oaks, and hawthorn.

The second problem we observed on the maple branch samples is the maple bladder gall mite (*Vasates quadripedes)*. Maple bladder gall mites overwinter under loosened bark and around the callous growth around wounds. When the leaves start to appear, the mites travel up the tree and down the branches, and begin feeding on the underside of the sprouting leaves. This causes

Figure 2. Maple bladder gall mine on maple.

blisters to form that turn into a hollow bladder (or gall) as the leaf grows. Galls start to form in early May (figure 2). The mites then go into the gall and continue to feed within its sheltered walls. If the gall mite population is too high, the leaves could shrivel up and the tree could possibly drop foliage. At this stage they reproduce asexually inside the gall's walls; the newborn mites mature between late June and mid July. The galls will then dry up to a tiny escape hole through which the mites exit, and the entire process starts over.

Figure 2. Maple bladder gall mites form galls on maple leaves..

These tiny mites are most commonly found on the leaves of silver and red maple trees. The bladder gall mite is very common across the majority of the United States. Often their signs can easily be observed due to the brilliant red color of the galls, which can even be considered spectacular; however they are rarely detrimental to tree health. Gall mites do not pose any real harm to the tree and no lasting damage will result.

In conclusion, we don't think the sugar maple you mentioned will be affected by either the cottony maple scale or the mite. However, if the landowner feels there is a need to; the scale can be controlled using an insecticide to kill the crawlers. As for the bladder gall mites, they seem to be specific only to the silver maple and wouldn't infest sugar maples. However, other species of gall mites (e.g. the spindle gall mite) are commonly found on sugar maples.

Both pests are native insects that frequently affect silver maple and usually aren't detrimental to healthy trees ~~(if tree are healthy)~~ and I do not expect the tree to die from this, and the damage exhibited by these pests should create more of a cosmetic issue. Without treatment trees will exhibit signs of stress (shrinking of leaves, lose of foliage); if the landowner chooses to treat the trees, the impacts associated with the pest will be minimized.

We have several questions about the tree and infestations.

Is this an ornamental tree?
What is the setting where the tree is located? (rural or urban)
How many trees are close by? What species are they?
How old/what size is the affected tree?
How widespread is the problem? Is only one tree affected?
How long have you noticed the problem?
Is the affected tree showing any signs of dieback or any other stressors?

Please contact me at rturcotte@fs.fed.us or call 304.285.1544 with any questions.

Sincerely,

Richard M. Turcotte

Morgantown Field Office

WH/CG/AM

Cc: Andrea Hille, Forest Silviculturist